PH 1071.DA
301.0015

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Feygin

Serial No.: Not yet assigned

Filed: Concurrently herewith

For: METHODS AND APPARATUS FOR IMPROVED FLUID CONTROL UTILIZING A U-VALVE EMPLOYING A BIDIRECTIONAL CHECK VALVE

Group: Not yet assigned

Examiner: Not yet assigned

June 1, 2001
Chapel Hill, NC 27516

Assistant Commissioner for Patents
Washington, DC 20231

PRELIMINARY AMENDMENT

Sir:

Please amend the above identified application as follows:

In the Specification

Page 1, before the first line, insert:

--This is a division of application Serial Number 09/283,126 filed on March 31, 1999.--

In the Claims

Please cancel claims 1-27 and 31-35 without prejudice.

Please add the following new claims:

--36. The flow-interrupting U-valve apparatus of claim 28 wherein the flow-interruption device allows liquid to flow into the chamber until the level of liquid in the chamber reaches the level of liquid in the vessel.--

--37. The flow-interrupting U-valve apparatus of claim 28 wherein the flow-interruption device prevents siphoning of the liquid.--

--38. The flow-interrupting U-valve apparatus of claim 28 wherein the flow-interruption device allows purging of the vessel utilizing negative pressure.--

--39. The flow-interrupting U-valve apparatus of claim 28 wherein the flow-interruption device allows agitation of liquid within the vessel utilizing a passage of gas into the vessel.--

--40. The flow-interrupting U-valve apparatus of claim 28 wherein the flow-interruption device allows the vessel to be evacuated utilizing suction applied to the outlet.--

--41. The flow-interrupting U-valve apparatus of claim 29 wherein the flow-interruption device allows liquid to flow into the chamber until the level of liquid in the chamber reaches the level of liquid in the vessel.--

--42. The flow-interrupting U-valve apparatus of claim 29 wherein the flow-interruption device prevents siphoning of the liquid.--

--43. The flow-interrupting U-valve apparatus of claim 29 wherein the flow-interruption device allows purging of the vessel utilizing negative pressure.--

--44. The flow-interrupting U-valve apparatus of claim 29 wherein the flow-interruption device allows agitation of liquid within the vessel utilizing a passage of gas into the vessel.--

--45. The flow-interrupting U-valve apparatus of claim 29 wherein the flow-interruption device allows the vessel to be evacuated utilizing suction applied to the outlet.--

--46. The flow-interrupting U-valve apparatus of claim 30 wherein the flow-interruption device allows liquid to flow into the chamber until the level of liquid in the chamber reaches the level of liquid in the vessel.--

--47. The flow-interrupting U-valve apparatus of claim 30 wherein the flow-interruption device prevents siphoning of the liquid.--

--48. The flow-interrupting U-valve apparatus of claim 30 wherein the flow-interruption device allows purging of the vessel utilizing negative pressure.--

--49. The flow-interrupting U-valve apparatus of claim 30 wherein the flow-interruption device allows agitation of liquid within the vessel utilizing a passage of gas into the vessel.--

--50. The flow-interrupting U-valve apparatus of claim 30 wherein the flow-interruption device allows the vessel to be evacuated utilizing suction applied to the outlet.--

--51. A bi-directional valve apparatus comprising:

a first port;

a second port;

a first channel connecting the first port and the second port, the first channel comprising a check valve blocking liquid flow in a direction from the first port to the second port and allowing liquid flow in a direction from the second port to the first port when a pressure is applied in the direction from the second port to the first port; and

a second channel connecting the first port and the second port, the second channel comprising a floating check valve blocking liquid flow in the direction from the first port to the

second port when the floating check valve is in a closed position, the floating check valve allowing liquid flow in the direction from the first port to the second port when the floating check valve is in an open position.--

--52. The valve apparatus of claim 51 wherein the check valve is adapted to be forced open by application of a gas pressure in the direction from the second port to the first port.--

--53. The valve apparatus of claim 52 wherein the floating check valve is adapted to be opened by an application of a negative pressure.--

--54. The valve apparatus of claim 53 wherein the check valve is a ball check valve.--

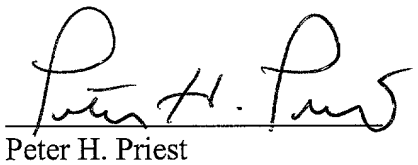
--55. The valve apparatus of claim 53 wherein the floating check valve comprises a sealing orifice which interrupts an incoming flow of fluid to maintain a fluid level in the valve apparatus.--

Remarks

This preliminary amendment is being filed in connection with a divisional of Serial No. 09/283,126 filed concurrently herewith. Claims 1-27 and 31-35 have been cancelled without prejudice. New claims 36-55 have been added. Claims 28-30 and 36-55 are presently pending.

The specification has been amended to update the current status of the related case.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Specification

On page 1, the following text has been added:

-- This is a division of application Serial Number 09/283,126 filed on March 31, 1999.--

In the Claims

Claims 1-27 and 31-35 have been cancelled.

New claims 36-55 have been added.